Studies to Examine Relationship between EOC and ACT Assessments

College and career readiness is Goal 1 in Missouri's Top 10 by 20 campaign. This goal states that "All Missouri students will graduate college and career ready" (see http://dese.mo.gov/top-10-by-20). Even prior to this, Missouri created end-of-course (EOC) assessments with the primary purpose of "measuring and reflecting students' mastery toward post-secondary readiness.[1]" Starting in Spring 2015, 100% of Missouri high school juniors will take the ACT. This will provide Missouri's Department of Elementary and Secondary Education (DESE) with a snapshot of the numbers of students who meet ACT's college readiness benchmark; however, the results of the ACT may conflict with those reported by the EOC assessments. To this end, DESE has commissioned the Center for Assessment to design a series of studies that examine the relationship between the content-area EOCs and the subject-area ACTs. The purpose of these studies is to link performance on the EOC to ACT's College Readiness Benchmarks.

In the first section of this paper, we will briefly overview college and career readiness. This will be followed by an explanation of the data that will be used in the proposed studies. Finally, we suggest various studies that Missouri could undertake to link performance on the EOCs to the ACT subject-area tests.

College and Career Readiness.

There is a large literature on college and career readiness. A complete review of this literature is beyond the scope of the document. It is useful, though, to examine how Missouri defines college and career readiness and to look at the ACT college readiness benchmarks.

Missouri defines college and career readiness to mean that a high school graduate has the necessary English and mathematics knowledge and skills—including, but not limited to, reading, writing, communications, teamwork, critical thinking and problem solving—either to qualify for and succeed in entry-level, credit-bearing two- or four-year college courses without the need for remedial coursework, or in workforce training programs for his/her chosen career that offer competitive, livable salaries above the poverty line, offer opportunities for career advancement, and are in a growing or sustainable industry (http://dese.mo.gov/college-career-readiness). This definition assumes that there is overlap between the skills needed for readiness in college and career. This is similar to Conley (2012) who created a definition that encompassed both college and career readiness. In proposing this definition, Conley (2012) noted that "(a)nalyses of college courses required for degrees and certificates find that the learning skills and foundational knowledge

[1] http://dese.mo.gov/sites/default/files/2013-

associated with college success overlap considerably those necessary for success in certificate and training programs that lead to careers."

The ACT College Readiness Benchmarks are the ACT® College Readiness Assessment scores associated with a 50% chance of earning a B or higher grade in typical first-year credit bearing college courses. The Benchmarks also correspond to an approximate 75% chance of earning a C or higher grade in these courses (see Allen & Sconing, 2005). There are four Benchmarks, corresponding to the four ACT subject area test scores linked to common first-year courses: ACT English/English Composition I, ACT Mathematics/College Algebra, ACT Reading/social science courses, and ACT Science/Biology. The ACT College Readiness Benchmarks are applicable to 11th and 12th grade students who take the ACT. Table 1 shows ACT's College Readiness Benchmarks for each of the ACT subject area tests.

Table 1. Benchmarks for College Readiness by ACT Subject Area Tests (from Allen, 2013)

ACT Subject Area Test	College Readiness Benchmark
English	18
Mathematics	22
Reading	21
Science	24

While the purpose of this paper is to propose a study that links performance on the EOC to ACT College Readiness Benchmarks, it is worth noting that various studies have consistently shown that college-readiness outcomes based solely on one predictor (e.g., test scores or grades) are inferior to prediction models that employ multiple predictors (Zwick, 2002). In admission, hundreds of validity studies have established that college grades are best predicted by a combination of high school grades and SAT scores (Zwick, 1999), while other research has shown the importance of course intensity or academic rigor in predicting college outcomes (Adelman, 2006). Recent research by the Consortium of Chicago School Research (2008) has reported that grades in academic courses taken in high school were an excellent predictor of college performance, which again suggests the importance of models that incorporate multiple measures in predicting college success. We note this because it may be worth investigating prediction models that examine other indicators (such as GPA) in addition to EOC performance when predicting ACT performance.

Finally, it is worth noting that ACT created college-readiness benchmarks and did not examine their appropriateness as a career-readiness benchmark. The Missouri definition of college and career readiness assumes that similar levels of knowledge and skills are needed for both paths. Even so, it is not clear that the ACT benchmarks are appropriate as an indicator of career readiness. The ASVAB is often administered in Missouri schools, and it may be used for career counseling. Numerous studies have demonstrated the validity of the ASVAB in predicting

success in military training and occupations as well as civilian training programs (see Sellman (2004) for an overview of these studies). In addition to the ACT, Missouri may consider investigating the predictive relationship between the EOCs and the ASVAB.

Assessment Data

Data from the EOC and ACT assessments will constitute the main part of this study.

End-of-Course Assessments

The EOCs were first administered in English II, Algebra I, and Biology in 2009. Starting in 2010, the EOCs were again administered in these three areas along with English I, Algebra II, Geometry, Government, and American History. The Physical Science EOC was added in the 2014-2015 school year. Only the English II, Algebra I, Biology, and Government exams are required for all students. A 2012 study (Egan) showed that English I had the highest participation rate of the non-required subjects (approximately 2/3 of students participated in this EOC).

The EOCs may be administered in the Spring, Summer, or Fall of a school year. The majority of students complete EOCs during the Spring administration. Results reported in the 2012 Technical Report indicate that fewer than 1,000 students took any EOC in Summer 2011. In the Fall 2011, over 3,000 students took the required Algebra I, English II, and Biology EOCs and nearly 17,000 students completed the required Government EOC.

Missouri reports students into four achievement levels on each EOC: Below Basic, Basic, Proficient, and Advanced.

Missouri does not prescribe the course sequence that high school students should follow nor the year in which a course should be taken. For example, students may take the Algebra I course and required EOC in Grade 8, 9, 10, 11, or 12. If a student takes the Algebra I EOC prior to high school, then they are required to complete the Algebra II EOC in high school.

Missouri is adjusting the underlying Learning Standards for the English I, English II, Algebra I, Algebra II, and Geometry EOCs. The Learning Standards for the Biology, Government, and American History will not change. Standard setting and/or Cut Point Validation will be held for all EOCs in February 2015.

Four years of EOC data will be available for the 2012 graduates, five years of EOC data will be available for the 2013 graduates, and six years of EOC data will be available for the 2014 graduates.

ACT Assessments

Missouri has also collected ACT data for its graduate file. ACT data is available for all participating students for 2012, 2013, and 2014 high school graduates. ACT reports that 49,217 Missouri students took the ACT in 2013 (this is about 75% of the graduating class). Of these students, 28% met or surpassed ACT's College Readiness Benchmarks for the graduating class of 2013[2]. Census ACT data will not be available until Spring 2015.

Table 2 shows the suggested alignment of Missouri's EOC assessments with each ACT Subject Area Test. While Spring 2015 marks the first census administration of the ACT in Missouri, administration of the EOC in some content areas began in 2009. This suggested alignment is similar to the alignment between the college courses and the ACT subject area tests that ACT used to establish their College Readiness Benchmarks.

Table 2. Alignment of EOC Assessments with ACT Subject Area

EOC	ACT Subject Area Test
English I English II*	English
Algebra I* Algebra II Geometry	Mathematics
Biology* Physical Science	Science
American History Government*	Reading

*Required tests

Proposed Methodology

There are different ways to examine the relationship between the EOC assessments and the ACT. First, Missouri may want to examine the relationship between the Proficient and Advanced achievement levels on the EOC with the ACT college readiness benchmarks. Many stakeholders may assume that there is a relationship between the achievement levels on the EOC and readiness for the ACT. Parents may believe that students who achieve Proficient or Advanced on the EOC are well poised to meet the College Readiness Benchmark on the ACT. This assumption will likely be made even if Missouri establishes ALDs that clearly articulate that such a relationship does not exist.

[2] See http://www.act.org/newsroom/data/2013/pdf/profile/Missouri.pdf

Next, Missouri may want to use the EOCs administered during Grade 8, Grade 9, or Grade 10 as an early indicator of college readiness. Specific EOC scale scores can be linked to the ACT College Readiness Benchmarks

This section will first examine the descriptive analyses that will need to take place prior to examining the relationship between the EOC and ACT. Next, it will propose empirical studies to examine the relationship between the EOC and ACT. The third portion of this section will propose how the relationship between the EOC and ACT may be examined through the standard setting process. The final portion of this section will propose some additional studies that may be useful to Missouri in validating their definition of college and career readiness.

Descriptive Analyses

As stated above, the EOCs may be administered at any point during a student's high school career. The first step should be to ascertain the administration pattern of EOCs and ACT for high school students using data from 2009 through 2014. This analysis will help answer the questions:

- When in a student's high school career is each EOC typically completed?
- When in a student's high school career is the ACT typically completed?

This analysis should be limited to the first administration of the EOC for a student and, if available, every administration of the ACT. For this analysis, Table 3 should be completed for both the Fall and Spring administration for the students in the 2012, 2013, and 2014 graduate file.

Table 3. The Number of Students taking each Assessment by Grade by Administration

EOC*	Grade 8		Freshman		Sophomore		Junior		Senior	
	Fall	Spr	Fall	Spr	Fall	Spr	Fall	Spr	Fall	Spr
Algebra I										
Algebra II										
Geometry										
English I										
English II										
Biology										
American History										
US Government										
ACT**										

*Data from the Physical Science EOC will not be available.
** Combine administrations of the ACT into fall and spring time frames

Other descriptive statistics for the EOC should be reported, including:

- mean and standard deviation of EOC scale scores overall and disaggregated by grade level of first EOC administration for the content area;
- frequency distribution of race/ethnicity overall and disaggregated by grade level of first EOC administration for the content area;
- frequency distribution of gender overall and disaggregated by grade level of first EOC administration for the content area;
- frequency distribution of free and reduced lunch overall and disaggregated by grade level of first EOC administration for the content area.

Descriptive statistics should also be computed for the ACT scores available in the graduate file. If possible, this information should be disaggregated by the time of testing (e.g., Spring 2011 or Fall 2011).

The same information will be provided for matched sets of students who have taken EOC and SAT. This will also indicate the test taking patterns that can be used to examine the relationship between EOC and ACT performance.

Empirical Studies of the EOC/ACT Relationship using Existing Data

As mentioned above, the underlying Learning Standards are changing for many of the EOC assessments. Even so, there is existing data that can be used to examine the current relationship between the EOC and ACT. The analyses described in this section can be replicated once data is available for the revised EOCs and the census administration of the ACT.

Study 1. Relationship between the EOC Achievement Levels and the ACT College Readiness Benchmarks.

This study will look at the relationship between the EOC Achievement Levels and the ACT College Readiness Benchmark. It will use the existing data representing students who have graduated from high school in the last three years (i.e., 2011-12, 2012-13, and 2013-14). This study will examine the following questions:

1. What is the relationship of the EOC achievement levels with the college readiness benchmarks on the ACT?
    a. What are the scores on the EOC that link to the ACT college readiness benchmarks?
        i. How do these projected scores on the EOC assessments compare to the cut-offs associated with the established performance levels?
        ii. What is the number and percent of students who are at/above the projected scores on the EOC assessment in comparison to the number and percent of students who are at/above the proficient and advanced achievement levels?

The purpose of this set of studies is to establish the general relationship between the EOCs and the ACT.

In order to answer these questions, the following methodology is proposed:

- Compare performance on each EOC assessment with ACT.
    - For all three years of data (2012, 2013, 2014), compare performance levels and scores for same students.
        - Examine distributions and joint distributions of students calculating descriptive statistics, 95% confidence intervals of the means and correlation coefficients.
            - For samples experiencing restriction of range, calculate the adjusted correlation coefficients.
        - Examine cross-tabulations of achievement levels on EOC with dichotomized performance on ACT and SAT using college readiness benchmarks.
        - Examine distribution of scores on EOC assessments for students at/above college readiness benchmark and those below college readiness benchmark on ACT and SAT.
    - Using the 2012 data, project ACT college readiness benchmarks on each EOC Assessment and compare to achievement levels. Comparisons involve the number and percent of students at/above projected score on each EOC assessment versus number and percent of students at/above cut-off for proficient and advanced achievement levels.
        - Using logistic regression, the EOC score that represents a 50%, 65% and 75% likelihood of being at/above college readiness benchmark for ACT and SAT will be calculated.
            - Three validity statistics will be estimated (see Sawyer, 1996) (a) the maximum percentage of students at/above the college readiness benchmark (accuracy rate – AR), (b) the percentage of students above the benchmark among those who would be expected to be above the benchmark (success rate – SR), and (c) the increase in the percentage of students at/above the college readiness benchmark over expecting all students to be at/above the benchmark (increase in accuracy rate – ΔAR).
        - Using a borderline group standard setting method, the mean EOC score for the students who score within +/- 1 standard error of measurement of the College Readiness Benchmark on the ACT will be calculated.
        - Replicate the studies using 2013 and 2014 data.

- Using the 2012 data, project EOC assessment scores representing proficient and advanced achievement levels on ACT and compare to college readiness benchmarks. Comparisons involve number and percent of students who are at/above projected ACT score versus percent of students who are at/above the college readiness benchmark for each test.
    - Using logistic regression, the ACT score that represents the 50%, 65%, and 75% likelihood of being at/above the proficient and advanced levels on each EOC Assessment will be calculated.
        - Three validity statistics will be estimated (see Sawyer, 1996) (a) the maximum percentage of students at/above the college readiness benchmark (accuracy rate – AR), (b) the percentage of students above the benchmark among those who would be expected to be above the benchmark (success rate – SR), and (c) the increase in the percentage of students at/above the college readiness benchmark over expecting all students to be at/above the benchmark (increase in accuracy rate – ΔAR).
    - Using a borderline group standard setting method, the mean ACT score for the students who score within +/- 1 standard error of measurement of the proficient and advanced achievement levels on the EOC will be calculated.
    - Replicate the studies using the 2013 and 2014 data.

Study 2. Using the EOCs as an Early Indicator of College Readiness.
Unlike the first study which looked to establish the general relationship between the EOC ALDs and the ACT College Readiness Benchmark, this study looks to find the EOC score needed to meet the ACT College Readiness Benchmark given the grade-level in which the EOC was first administered. This study will look only at those EOCs administered in Grade 9 and 10 or prior to high school, and it will answer the following questions:

1. Can the EOC serve as an early indicator of college readiness?
    a. Does EOC score that links with the ACT College Readiness Benchmark vary based on the grade level in which the student first took the EOC?
    b. How do the EOC linking scores in this study compare with those EOC linking scores from Study 1?

To answer these questions, separate data sets will need to be created based on the grade level in which the EOC was first administered. Again, the study will be completed using the 2012 data and then replicated with the 2013 and 2014 data.

The methodology for examining this data will be much the same as the one used in the previous study. The primary difference is that only one direction of linking will be investigated: EOC to ACT.

- Compare performance on each EOC assessment with ACT.
    - For all three years of data (2012, 2013, 2014), compare performance levels and scores for same students.
        - Examine distributions and joint distributions of students calculating descriptive statistics, 95% confidence intervals of the means and correlation coefficients.
            - For samples experiencing restriction of range, calculate the adjusted correlation coefficients.
        - Examine cross-tabulations of achievement levels on EOC with dichotomized performance on ACT using college readiness benchmarks.
        - Examine distribution of scores on EOC assessments for students at/above college readiness benchmark and those below college readiness benchmark on ACT.
    - Using the 2012 data, project ACT college readiness benchmarks on each EOC Assessment and compare to EOC achievement levels. Comparisons involve the number and percent of students at/above projected score on each EOC assessment versus number and percent of students at/above cut-off for proficient and advanced achievement levels.
        - Using logistic regression, the EOC score that represents a 50%, 65% and 75% likelihood of being at/above college readiness benchmark for ACT will be calculated.
            - Three validity statistics will be estimated (see Sawyer, 1996) (a) the maximum percentage of students at/above the college readiness benchmark (accuracy rate – AR), (b) the percentage of students above the benchmark among those who would be expected to be above the benchmark (success rate – SR), and (c) the increase in the percentage of students at/above the college readiness benchmark over expecting all students to be at/above the benchmark (increase in accuracy rate – ΔAR).
        - Using a borderline group standard setting method, the mean EOC score for the students who score within +/- 1 standard error of measurement of the College Readiness Benchmark on the ACT will be calculated.
        - Replicate the study using the 2013 and 2014 data.

Standard Setting

Study 4. Use at Standard Setting Workshop

Missouri plans to reset standards in February 2015. The information from the empirical studies can serve as useful information for standard setting panelists. It is assumed that Missouri will provide panelists with their definition of college and career readiness and that one cut score (either Proficient or Advanced) will be associated with this definition.

The results of the empirical studies can be presented to standard setting panelists to inform their recommendations for the Proficient or Advanced Cut Score. With the exceptions of Government and English II, Table 4 shows that there is a disconnect between the current percentage of students classified at or above Proficient and at or above Advanced on the EOC and the percentage of Missouri students meeting the ACT College Benchmarks. For example, nearly 57% of students in Spring 2012 were classified as at or above Proficient on the Algebra I EOC yet only 46% of the 2012 graduating class met the college benchmark.

It must be recognized that the percentages in Table 4 are based on different populations. The percent of students meeting the ACT College Benchmarks is based only on the 2012 graduating class while the EOC percentages are based on all students who took the EOC in Spring 2012 regardless of grade level. Prior to standard setting, Missouri should calculate this information using a matched sample of students who completed both the EOC and the ACT.

Table 4. Percent of Students at/above Selected Cut-Offs

EOC Content Area	Percent at or above Proficient*	Percent at or above Advanced*	Related ACT Content Area	Percent Meeting College Benchmark**
Algebra I	57.2	21.1	ACT Math	46
Algebra II	56.2	16.1		
Geometry	62.7	13.1		
American History	48.4	10.9	ACT Reading	56
Government	53.4	15.1		
Biology	55.8	13.9	ACT Science	33
English I	62.3	16.7	ACT English	73
English II	74.2	20.1		

*Results are from the Spring 2012 Administration of the Missouri EOCs.
**From Missouri's ACT Profile Report (http://www.act.org/newsroom/data/2012/pdf/profile/Missouri.pdf)

Missouri will want to carefully consider how they want to introduce the information from the empirical studies at the standard setting. This information may be introduced from the beginning of the standard setting, and panelists may be asked

to validate or to adjust the cut scores based on the content of EOC. Alternatively, this information could be introduced later in the process so that panelists can adjust their early recommendations based on the information from the empirical studies.

At the very least, Missouri should articulate what type of relationship they expect to exist between the EOC achievement levels and the ACT College Readiness Benchmarks. This expectation should be clearly communicated with the standard setting panelists.

Additional Validity Studies

A final set of studies are proposed here for examining the relationship between performance on the EOC assessments and students' post-secondary experience. The first set of empirical studies proposed above looked to establish a scale score that would be associated with students' meeting the ACT College Readiness Benchmark. While it makes good sense to examine the relationship of the EOC with the ACT, it is also necessary to examine how well the cut scores on the EOC relate to students' success with their post-secondary experience.

In particular, the Missouri definition of college and career readiness states that college readiness means that a high school graduate will either qualify for and succeed in entry-level, credit-bearing two- or four-year college courses without the need for remedial coursework, or in workforce training programs for his/her chosen career that offer competitive, livable salaries above the poverty line, offer opportunities for career advancement, and are in a growing or sustainable industry. In order to validate this information, Missouri will need to conduct follow up surveys of future graduates to collect information on remedial coursework, success in college, and salary information for those students going directly into the workforce. This type of information is not available in the graduate file of data that Missouri currently collects.

However, there are variables in the current file that could serve as proxies for success after graduation. For example, Missouri receives information from the National Student Clearinghouse that indicates if a student has been in college a certain length of time. The variable list in Missouri's graduate file also indicates that Missouri collects follow-up information for those students that do not go on to college.

Study 5. Relationship between EOC Performance and Post-Graduate Success with Current Data

Using the 2012, 2013, and 2014 graduate files, this study will examine the relationship between EOC performance and post-graduate success. In particular, this study will examine the relationship between the EOC scores needed to reach the ACT College Readiness Benchmarks and post-graduate success using currently available variables. As noted, these variables will be proxies for post-graduate

success and do not necessarily align well with Missouri's definition of college and career readiness. This study seeks to examine the following questions:

1. What is the relationship of student performance on the EOC assessments with the likelihood of enrolling in a post-secondary institution?
    a. What are the scores on the EOC assessments that correspond to a 50%, 65%, and 75% likelihood that students enroll in a post-secondary institution?
        i. How do these projected scores on the EOC assessments compare to the cut-offs on the EOC representing the proficient and advanced achievement levels?
        ii. What is the number and percent of students who are at/above the projected scores on the EOC assessments in comparison to the number and percent of students who are at/and above the proficient and advanced achievement levels?
    b. If desired, these studies could also be conducted for the ACT assessments.

Study 6. Relationship between EOC Performance and Post-Graduate Success with Future Data

As noted, the variables used in Study 6 are only a proxy of post-graduate success. In order to validate the predictive nature of the EOC scores, Missouri will need to collect additional variables. In particular, it will be important to collect information on any remedial courses students take once entering post-secondary institutions. Missouri will also need to collect salary-related information to see if graduate earn a salary that is over the poverty-line. Once these data are collected, Missouri should examine the relationship between student performance on the EOC and these outcome variables. This study seeks to examine the following questions for each EOC assessment:

1. What is the relationship of student performance on the EOC assessments with taking a remedial course in post-secondary?
    a. What are the scores on the EOC assessments that correspond to a 50%, 65%, and 75% likelihood that students takes, at least, one remedial course in a post-secondary institution?
        i. How do these projected scores on the EOC assessments compare to the cut-offs on the EOC representing the proficient and advanced achievement levels?
        ii. What is the number and percent of students who are at/above the projected scores on the EOC assessments in comparison to the number and percent of students who are at/and above the proficient and advanced achievement levels?
2. What is the relationship of student performance on the EOC assessments and student post-secondary salary?

a. What are the scores on the EOC assessments that correspond to a 50%, 65%, and 75% likelihood that students earn a salary that is over the poverty line?
    i. How do these projected scores on the EOC assessments compare to the cut-offs on the EOC representing the proficient and advanced achievement levels?
    ii. What is the number and percent of students who are at/above the projected scores on the EOC assessments in comparison to the number and percent of students who are at/and above the proficient and advanced achievement levels?

Given Missouri's broad definition of college and career readiness, it is likely that other variables will be identified and their relationship to the EOC should be examined.

Additional Data

Missouri also collects additional variables in their graduate file that may prove useful in examining the relationship between the EOC and the ACT. These variables include:

- Other college and career readiness measures, such as results from the COMPASS and ASVAB examinations.
- Advanced placement courses
- Grade point average
- Primary career education path
- Race/Ethnicity
- Free or reduced lunch
- Follow-up status for end-of-year graduates

There are several other studies that may be appropriate as the nature of the data collected in the graduate file becomes clearer. There are several variables that appear to be promising for examining career readiness. For example, Missouri collects on student performance on the ASVAB but it is unclear how many students take this exam. Additionally, there are variables, such as student GPA, that may improve the prediction of success in college. Again, though, the type of data collected in the graduate file is unclear.

Appendix A presents the lists of variables that Missouri collects in their graduate file.

Summary

This paper proposed a series of studies that Missouri could undertake to establish the relationship between the EOC and the ACT college readiness benchmarks. It also

proposed studies that would examine the relationship of EOC performance with Missouri's definition of college and career readiness.

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Appendix A

Missouri Department of Elementary and Secondary Education
Student Data Collected

All data transmitted to the Missouri Department of Elementary and Secondary Education by local school districts are subject to the confidentiality provisions of the Family Educational Rights and Privacy Act (20 U.S.C. 1232g) which bars disclosure of personally identifiable student information without parental consent or unless authorized by federal law. This includes transmission of data to the federal government.

Item Name	Requirement	Definition
Program Participation/Demographics		
Attending District Code	**State**	6 digit county district code for the district of attendance
Attending School Code	**State**	4 digit school code for the school of attendance
Reporting District Code	**State**	6 digit county district code for the district reporting
Reporting School Code	**State**	4 digit school code for the school reporting
Resident District Code	**State**	6 digit county district code for the district of residence
Resident School Code	**State**	4 digit school code for the school of residence
MOSIS Student ID	**State**	State assigned, randomly generated 10 digit unique ID
Local Student ID	**optional**	Local student id maintained by the district
Legal Last Name	**State**	Legal last name
Legal First Name	**State**	Legal first name
Legal Middle Name	**optional**	Legal middle name
Legal Name Suffix	**optional**	Legal name suffix
Date of Birth	**State, IDEA**	Date of birth
Social Security Number	**optional**	Social Security Number
County	**State**	County of residence
Student Grade Level	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	Grade level as of the time data is being submitted unless otherwise specified
Gender	**IDEA, PERKINS, ESEA**	Gender
Race/Ethnicity	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	Race / Ethnic code
Lunch Status	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	Free or reduced lunch
Gifted	**State 162.720 and 162.675**	Gifted Status
Homeless	**ESEA**	Primary nightime residence
Migrant	**ESEA**	Student who has moved across school district boundaries within the preceding 36 months to seek or obtain (or to accompany or join a parent, spouse, or guardian who is seeking to obtain) temporary, seasonal employment in agriculture or fishing, or to work in a beef, poultry, or pork processing plant
In building less than a year	**State (Section 161.092 (9)), ESEA**	Not enrolled in the building the last Wednesday in September OR was not enrolled in the building during the MAP administration OR was not enrolled in the building at least half of the eligible days between the last Wednesday in September and the MAP administration
In district less than a year	**State (Section 161.092 (9)), ESEA**	Not enrolled in the district the last Wednesday in September OR was not enrolled in the district during the MAP administration OR was not enrolled in the district at least half of the eligible days between the last Wednesday in September and the MAP administration
Voluntary Transfer Student	**St. Louis Deseg case. Federal Appeals 1981.**	Designation for those who participate in the desegregation settlement agreement
A+ Student	**Optional**	Grade 09, 10, 11, or 12A+ codes that designate an A+ participant or completer
Number of Months in USA	**State, ESEA**	Number of months that an LEP/ELL student has been in the United States
Immigrant	**ESEA**	Students who are aged 3 through 21, were not born in any State
English Language Learner (ELL) Primary Language	**ESEA**	Native language
Limited English Proficient (LEP) / ELL	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	LEP/ELL status
ESOL Instructional Model	**ESEA**	Most frequent LEP Instructional Model used
Missouri Option Program	**State**	Participation
H.S. Career Ed Student	**PERKINS**	Designation for those in Grades 9-12 who have completed or are currently taking a Career Edcourse
Title I	**ESEA**	Receiving services
Title III	**ESEA**	Receiving services
Residency Status	**State 167.020, 163.011, 167.151**	Residency status code
Membership FTE	**State163.012**	Full time equivalent
One Prior 10 Day Attendance	**State 167.020, 163.011, 167.151**	Count for those in attendance one of the prior 10 days from the count date
Enrolled On Count Date	**State, IDEA, ESEA**	Enrollment on the count date
Enrolled All Year	**State, ESEA**	Enrollment in the district
GPA	**Optional**	Annual non-cumulative Grade Point Average (GPA)
GPA Scale	**Optional**	Grading scale (11 or 4) used by the district
8th Grade Tech Literacy	**ESEA**	Count of those who meet or exceed 8th grade technology literacy requirements
Physical Fitness Aerobic Capacity	**State**	Fitness Test code for grade 05 and 09
Physical Fitness Abdominal Strength	**State**	Fitness Test code for grade 05 and 09
Physical Fitness Upper Body Strength	**State**	Fitness Test code for grade 05 and 09
Physical Fitness Flexibility	**State**	Fitness Test code for grade 05 and 09
Individualized Education Program (IEP)	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	Dominant disability
Special Education Placement	**IDEA**	Required for an IEP
SPED Program Exit Code	**IDEA**	Required for exiting Special Education
Truant	**ESEA**	Truant if 10 or more cumulative days of unexcused absence
Career Cluster	**PERKINS**	Primary career education path
Career Education Nontraditional Student	**PERKINS**	Persons entering a career education training program or occupation nontraditional to their gender
Career Education Single Parent	**PERKINS**	Those defined as a single parent-- NOTE: Field identified for removal 2013-14 school year
Career Education Displaced Homemaker	**PERKINS**	Those defined as displaced homemkers -- NOTE: Field identified for removal 2013-14 school year
CTE Technical Skills Attainment	**PERKINS**	Technical Skill Attainment result
K-8 Graduate District Code	**optional**	6 digit district code of the K8 District
Early Childhood Outcomes (ECO)	**IDEA**	Date of entry into ECSE program
ECO Entry Indicator 1	**IDEA**	Positive social-emotional skills
ECO Entry Indicator 2	**IDEA**	Acquisition and use of knowledge and skills
ECO Entry Indicator 3	**IDEA**	Use of appropriate behaviors to meet needs
ECO Exit Date	**IDEA**	ECSE program
ECO Exit Indicator 1	**IDEA**	Positive social-emotional skills
ECO Exit Indicator 2	**IDEA**	Acquisition and use of knowledge and skills
ECO Exit Indicator 3	**IDEA**	Use of appropriate behaviors to meet needs
CTE Program Code	**PERKINS**	Career Education program code
Title III LEP	**ESEA**	Count of the LEP students who were title III funded
Title III Immigrant	**ESEA**	Title III funded

IDEA = Individuals with Disabilities Education Act (Pub L. 101-476)
PERKINS = Carl D. Perkins Career and Tech. Educ. Improvement Act of 2006
ESEA = Elem. and Sec. Educ. Act (ESEA) Pub.L. 89-10, 79 State. 27, 20 U.S.C. ch.70)

Missouri Department of Elementary and Secondary Education
Student Data Collected

All data transmitted to the Missouri Department of Elementary and Secondary Education by local school districts are subject to the confidentiality provisions of the Family Educational Rights and Privacy Act (20 U.S.C. 1232g) which bars disclosure of personally identifiable student information without parental consent or unless authorized by federal law. This includes transmission of data to the federal government.

Item Name	Requirement	Definition
First Freshman Year	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	Required for those not previously enrolled in a Missouri public school district
Zip Code	**ESEA**	5 or 9-digit Postal Zip Code for the primary residence
Industry Recognized Credential	**State Section 161.092 (9)**	Industry-recognized credential/certification
Enrollment And Attendance		
Regular Hrs Attended	**State (Section 161.092 (9)) and 167.031 & 171.151**	Number of full-time and part-time hours in attendance
Regular Hrs Absent	**State (Section 161.092 (9)) and 167.031 & 171.151**	Number of hours absent
Remedial Hrs Attended	**State 167.340, 167.640, 167.345 RSMo**	Number of remedial hours outside the normal school day
Hours in Session	**State (Section 161.092 (9)) and 171.031**	Total number of hours the school is in session
Summer Attendance	**State167.227 and 178.280**	Hours attended summer school
Summer Membership	**State 167.227 and 178.280**	Total hours available attendance
Entry Date	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	Date entered the school
Entry Code	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	Type of Entry
Exit Date	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	Date left school
Exit Code	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	Type of Exit
Exit Destination District Code	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	6 digit county district code
Exit Destination School Code	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	4 digit school code of the school transfer
Exit Destination Comment	**State State (Section 161.092 (9)), IDEA,**	Description of exit from the school or district
Extended School Hours	**State Mo. Rev. Stat. §163.031**	Number of extended school year hours of special education and related services provided to a child
Courses Completed		
CTE Program Type	**PERKINS**	Program type code of CTE approved program
Assignment Number	**State (Section 161.092 (9))**	Educator's course assignment
Local Section Number	**Optional**	Local Section Number
Local Course Number	**Optional**	Course code that identifies assignment
Local Course Name	**Optional**	Course name abbreviation
State Course Number	**State (Section 161.092 (9))**	Required if not a self-contained classroom
Course Time Unit	**State (Section 161.092 (9))**	Unit of time for which the grade and credit were earned
Dual Credit Site	**State (Section 161.092 (9))**	Site at which instruction of college credit course is given
Course Semester	**State (Section 161.092 (9))**	Semester
Student Credits Earned	**State (Section 161.092 (9))**	The amount of credit earned
Student Credits Scheduled	**State (Section 161.092 (9))**	The amount of credit the student was scheduled to earn
Student Grade Earned	**State (Section 161.092 (9))**	Grade the student earned for the course in the unit of time specified in CourseTimeUnit
Advanced Placement	**State (Section 161.092 (9))**	Course designated as an advanced placement course (AP)
Course Completion Comment	**Optional**	Notes
Course Sequence Number	**State (Section 161.092 (9))**	Sequence number that identifies the content of courses taught at more than one level
Follow-Up on Students 180 Days After Graduating		
CTE Attending District Code	**PERKINS**	6 digit county district code
CTE Attending School Code	**PERKINS**	4 digit school code
Perkins Concentrator	**PERKINS**	Completed three units of credit in an approved career education program
Follow-Up Status	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	Follow Up Status for End of Year Graduates
CTE Placement Relation	**State, PERKINS**	The relationship between Vocational education and Follow-up Status
CIP Code	**PERKINS**	Classification of Instructional Programs Code
CTE Program Code	**PERKINS**	Career Education program code
SPED Follow-up Definition Met	**IDEA**	Special Education follow-up status
Discipline Incidents		
Offense Date	**State**	Date offense occurred
Offense Type	**State, IDEA**	Nature of offense resulting in removal from regular school setting
Weapon Type	**State, IDEA**	Type of weapon involved in the offense
Discipline Removal	**State, IDEA**	Type of disciplinary action used
Length Removed	**State, IDEA**	Length of time for removal from current educational placement
Modified Length	**State**	Expelled count for those whose length of removal was modified by Superintendent of the school district
Alternate Placement Indicator	**State, IDEA**	Those expelled receiving educational services in an alternative educational setting
Additional Data Elements		
College and Career Ready Measures	**State (Section 161.092 (9))**	Test scores for -- ACT, COMPASS, SAT, Advanced Placement (AP), International Baccalaureate (IB), Armed Services Vocational Aptitude Battery (ASVAB)
Missouri Assessment Program Test Sco	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	Test scores for required assessments
National Student Clearing House	**State (Section 161.092 (9)), IDEA, PERKINS, ESEA**	Follow Up Status http://wwwstudentclearinghouseorg/about/
First Steps Data	**State**	Data for payment purposes

Updated 03/23/2014

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